



**NATIONAL MATH PANEL: CRITICAL FOUNDATIONS FOR ALGEBRA  
PLANNING TEMPLATE FOR WORKING WITH SCHOOLS**

AREAS OF SCHOOL RESPONSIBILITY	CURRENT STATUS			NEXT STEPS		DWW RESOURCES (LINKS TO SPECIFIC RESOURCES)
	Already in Place	Not Feasible/ Inappropriate	Potential Areas to Develop	School	District	
<b>A. School Leadership</b>  1. The school principal and/or teacher leaders communicate and discuss research and district policy about mathematics teaching and learning with all staff.  2. The principal and/or teacher leaders communicate learning expectations for critical foundations of algebra and the importance of the aligning classroom practices, standards, benchmarks, and assessments for mathematics.  3. The school has mathematics expert(s) on staff or access to expertise related to teaching mathematics.  4. The principal and/or teacher leaders provide professional development on effective mathematics practices for all teachers.						

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<p>5. The principal and/or teacher leaders support teachers by deliberate selection and identification of materials and resources needed to support implementation of effective mathematics practices.</p> <p>6. The principal encourages collaboration among teachers for the purpose of integrating effective instructional practices into the current mathematics program.</p> <p>7. The principal and/or teacher leaders support teachers by providing leadership in data review and using classroom observations to improve teacher instructional approaches to teaching mathematics</p>						
<p><b>B. Providing Research-Based and Effective Instruction in Support of State and District Standards</b></p> <p>1. Benchmarks for student learning in mathematics are matched to the critical foundations of algebra</p> <p>2. The mathematics curriculum has a focused, coherent progression of key skills and topics and is implemented consistently in all classrooms.</p>						

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3. Mathematics teachers receive professional development on effective instructional practices for mathematics.						
4. Mathematics teachers are allocated planning time to collaboratively develop lesson plans that integrate effective instructional practices.						
5. Teachers participate in grade-level and cross staff meetings to review data, discuss curriculum, and share instructional strategies and assessments related to mathematics.						
6. Teachers of mathematics differentiate instruction based on readiness, interests, and developmental levels to meet the needs of all students based on formative and summative assessments.						
7. The school offers acceleration and/or enrichment for mathematically gifted students.						

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<b>C. Supporting Instruction in the Classroom</b>  1. Teachers explicitly teach students that academic abilities are expandable and that effort is related to improved mathematics performance.  2. Teachers encourage students to take on academic challenges and to persist in learning mathematics.  3. Teachers provide students with prescriptive, timely feedback focusing on strategies, effort, and the process of learning.  4. Teachers have professional development on and are given in class support for using formal and informal formative assessments.  5. Teachers have access to mathematics expertise, such as mathematics specialists and/or coaches to support implementing mathematics instructional materials, strategies, and progress monitoring.						

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6. Teachers receive professional development and have in class support for working with struggling students, especially in providing explicit instruction to promote skills.  7. Teachers administer progress monitoring assessments to identify needs for additional instruction.  8. School principals and/or teacher leaders support flexibility in teacher schedules to allow for reteaching and additional student support in developing mathematics concepts and skills						
<b>D. Recruiting, Retaining, Supporting High- Quality Staff</b>  1. Principal and/or school leadership ensure all staff has sufficient mathematics content and pedagogy knowledge for teaching.  2. The principal and/or teacher leaders provide feedback to teachers about their implementation of recommended practices.						

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<p>3. The principal and/or teacher leaders provide ongoing access to research on effective practices in mathematics teaching and learning.</p> <p>4. The principal ensures that all mathematics teachers and other teachers as appropriate are included in professional development activities on mathematics content and pedagogy.</p>						
<p><b>E. Supervision and Monitoring of Instruction</b></p> <p>1. The principal includes, as appropriate, use of research-based practices mathematics in teacher feedback and evaluation.</p> <p>2. The principal and/or teacher leaders meet with teachers to talk about mathematics achievement and interventions for critical foundations of algebra.</p> <p>3. Individual staff growth plans address needs related to mathematics content and pedagogical content knowledge.</p>						

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4. Teachers use multiple instructional strategies (e.g. multiple representations, manipulatives, technology, etc.) to support students struggling with mathematical concepts and skills.						
<b>F. Use Data for Planning and Accountability</b>  1. The principal and teachers review schoolwide mathematics progress data (e.g., standardized test scores, grades, course enrollment) at least annually.  2. The principal and/or teacher leaders meet with mathematics teachers to assess the school's progress in implementing strategies for critical foundations in algebra and develop actions for improving practice.						
<b>G. Engaging Families and Community</b>  1. The school communicates policy about the mathematics curriculum and the teaching of mathematics to parents.						

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2. Teachers work with parents to encourage them to support their child's interest in mathematics.  3. The school communicates the importance of effort and persistence in learning mathematics.  4. The school offers information to parents, families, and community members regarding the critical foundations of algebra, progress monitoring, and intervention programs for students in mathematics.  5. Teachers provide information to parents about when and how to help their children in mathematics.						
<b>H. Ensuring Safe and Supportive Learning Environments for All Students</b>  1. Teachers create classroom climates where all students are encouraged to participate in learning activities in ways appropriate for their developmental levels.  2. Teachers create classroom climates in which mistakes are seen as growth opportunities and academic challenges are encouraged.						



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3. Teachers create a schoolwide environment that provides consistent messages to students about intelligence not being fixed, and about the importance of effort and persistence in mathematics						
4. Leadership teams provide support for schoolwide events and projects to spark students' interest in mathematics (e.g., math bowl, chess club, math club, career day, etc.)						